 **UNIVERSITY OF MAINE AT FARMINGTON**

**COLLEGE OF EDUCATION, HEALTH AND REHABILITATION**

**LESSON PLAN FORMAT**

**Teacher’s Name:** Amy Jones  **Lesson #: 5 Facet:** Empathy

**Grade Level:** 9-Diploma  **Numbers of Days: 2**

**Topic:** Physical activity and brain function

**PART I:**

**Objectives**

**Student will understand that** being physically active will improve your life in more ways than just being fit and physically healthy.

**Student will know** key factual information on why physical activity can affect your brain

**Student will be able** to be open to the idea that physical activity can affect your academic and your mood on a daily basis

**Product:** PowerPoint

**Maine Learning Results (MLR) or Common Core State Standards (CCSS) Alignment**

**Maine Learning Results**

**Content Area:** Health Education and Physical Education

**Standard Label:** H. Physical Fitness Activities and Knowledge

**Standard:**H4 Physical Activity Benefits

**Grade Level Span:** Grades 9 - Diploma

*Students explain the interrelationship of physiological responses and physical, mental/intellectual, emotional, and social benefits related to regulate participation in physical activity.*

**Rationale:** Students will be able to see the intellectual and mental benefits to physical activity

**Assessments**

**Formative (Assessment for Learning)**

**Section I – checking for understanding during instruction**

Teacher will ask the students to give thumbs up, down or in between in relations to their understanding of the material. If teacher has to perform more instruction she will do so on the second day.

**Section II – timely feedback for products (self, peer, teacher)**

Students will be consistently able to receive feedback from teacher through TPS, and also checklist. Students will be able to make up their grades as needed as long as there is an obvious effort at the beginning

**Summative (Assessment of Learning):**

Students will be expected to create a PowerPoint that is both informational and persuasive. The point of the PowerPoint is to persuade those that are reading to understand the importance of physical activity not just in gym class. Students will show how physical activity can be implemented in various classrooms for various reasons.

**Integration**

**Technology:**

PowerPoint will be used to represent the information that the teams have compiled. Technology will also be used when they are accessing the information needed to complete the product.

**Content Areas:**

Health-importance of physical activity

Science, Math, History- implementing ideas of physical activity in the classroom

Anatomy& Physiology: brain functions

Psychology- how physical activity can effect ones thinking

Spanish- the hook will be in Spanish

**Groupings**

**Section I - Graphic Organizer & Cooperative Learning used during instruction**

Students will be given a wheel and spoke organizer to be completed when they are doing the homework after the first day. The cooperative learning piece will be implemented when they perform the think-pair-share activity.

**Section II – Groups and Roles for Product**

Groups will be determined by a fold line. The students will line up by the name of their favorite pet first name. After pairs have been chosen students will be given a checklist for each other to complete.

**Differentiated Instruction**

**MI Strategies**

Logical: Students will be able to see logically why physical activity effects the brain and its functions by watching the you tube video

Verbal: During the think-pair-share activity students will be able to verbalize their understandings

Visual: Students will see the YouTube video and be able to notice visually what happens

Musical: Students will be able to incorporate music and or podcasts into their PowerPoint

Intrapersonal: Students will be able to internalize material when they are doing the homework and also in the first stop of the think-pair-share activity

Interpersonal: Working in pairs and group discussion will highlight these students

Kinesthetic: Students will be able to move around the room when they do the fold activity, they will also be able to experience learning and moving.

Naturalist: In the PowerPoint projects students may relate humans and animal brains to see the relationship between the two

**Modifications/Accommodations**

***From IEP’s ( Individual Education Plan), 504’s, ELLIDEP (English Language Learning Instructional Delivery Education Plan)*** *I will review student’s IEP, 504 or ELLIDEP and make appropriate modifications and accommodations.*

**Plan for accommodating absent students:** Class wiki will have all of the handouts and notes for the class. If the student misses the first day they will be expected to the project on their own with an extention being giving. Students missing the second day of the lesson will be expected to post their homework on the wiki so that there partner can work on their PowerPoint. Students whose partners fail to show up for the second day will be able to work on the project and then finalize it with their partners. The group grade will be the same although the individual grades will not.

**Extensions**

**Type II technology:**

Students will be assessing the internet and be expected to use multiple different media’s, including but not limited to videos/pictures/podcasts in their Powerpoints

**Gifted Students:** These students will be able to shine with their different ways in which to implement physical activity. Clever ideas and suggestions will be expected but not mandated

**Materials, Resources and Technology**

*Access to stereo equipment*

Laptop

Handouts

**Source for Lesson Plan and Research**

[*http://www.ideafit.com/fitness-library/benefits-of-exercise-*](http://www.ideafit.com/fitness-library/benefits-of-exercise-) *great source of idea starters for the benefits of physical activity*

[**http://www.mentalhealth.org.uk/help-information/mental-health-a-z/E/exercise-mental-health/**](http://www.mentalhealth.org.uk/help-information/mental-health-a-z/E/exercise-mental-health/)**-**Resource

[**http://longevity.about.com/od/lifelongfitness/a/exercise\_mood.htm-**](http://longevity.about.com/od/lifelongfitness/a/exercise_mood.htm-)Resource

[**http://www.sparkpe.org/blog/how-physical-activity-affects-academic-performance/-**](http://www.sparkpe.org/blog/how-physical-activity-affects-academic-performance/-)Resource

<http://www.youtube.com/watch?v=SiLMzFo9TO4-> Youtube video of a school that is implementing this concept

[**http://www.enchantedlearning.com/graphicorganizers**](http://www.enchantedlearning.com/graphicorganizers)Graphic organizer website

[**http://www.thinkport.org/52eff83a-a1ed-476f-ac41-ceaa3a757307.asset**](http://www.thinkport.org/52eff83a-a1ed-476f-ac41-ceaa3a757307.asset)**?** –Graphc organizer used in lesson

**PART II:**

**Teaching and Learning Sequence (Describe the teaching and learning process using all of the information from part I of the lesson plan)** *Take all the components and synthesize into a script of what you are doing as the teacher and what the learners are doing throughout the lesson. Need to use all the WHERETO’s. (3-5 pages)*

Class Arrangement- During the hook desks and chairs will be on the perimeter of the room so that yoga is easily performed- After students will pair up the desks for the remaining period and the period after.

Agenda

* Hook: 5 minutes
* Students will be perform a think pair-share activity about how they feel the activity relates to them-15min
* Students will watch You tube video on an example of how a school has implemented this into their everyday routines.-15min
* Line fold activity to determine partners-5min
* Students will begin working on gathering information for presentation-20min
* Students will determine what each partner will research for homework and a checklist will be passed out so that students will understand what is expected of them. The graphic organizer will be passed out at this time so that the students have a organizer collection of their data.-20min

Day 2

* Students will meet with their partners for a workshop period -30 min
* Students will present their Powerpoints-40min
* Class will conclude with ending discussions on what were the highlights of the subject matter-10min

Students will understand that physical activity does more than just keep your body fit. They will understand fully why physical activity effects the brain and mood. Students will be able to be open to the idea that physical activity can not only help your alertness and readiness for the day, but if you implement physical activity in with your school work, that it may help you retain more information and also understand new concepts. *Students explain the interrelationship of physiological responses and physical, mental/intellectual, emotional, and social benefits related to regulate participation in physical activity.* For the hook in this lesson students will be asked to follow the song and to see if they retained the information given. The hope is for students to understand that this may help them in school and also in life.

**Where, Why, What, Hook. Tailors: Kinesthic, Logical, Interpersonal, Musical**

Students will know key factual information on why physical activity can affect your brain. Students will be able to see first-hand it physical activity helps them retain information. Also students will be able to fully understand the benefits of physical activity and its inclusion in all subjects in school and in all areas of life. Students will be able to use their knowledge to fill out graphic organizer and get teacher feedback on their ideas of persuasive arguments. Students will be able to rethink ideas when they are performing the task of completing the Powerpoint. Students will be able to ounce ideas of eachother when performing the think-pair-share activity.

**Equip, Explore, Rethink, Tailors: Interpersonal, Intrapersonal, Visual, Naturalistic**

Students will be able to explore the material by creating different ways to implement physical activity in different subjects within the school. By having the students create a persuasive PowerPoint students will be expected to find factual and engaging ways in which they can implement physical activity into school. By giving them freedom to come up with their own ideas, it’ll hopefully have them realize how easy it would be to do.

**Explore, Experience, Rethink, Revise, Refine, Tailors: Visual, Interpersonal, Logical, Intrapersonal, Musical**

Students will be given a checklist to determine what the teacher expects from them. Peer feedback will be conducted along with specific feedback from the teacher. Students will be able to be in control of their own learning and how deep into the material that they want to dive into

**Evaluate, Tailors: Visual, Interpersonal, Verbal,**

**Content Notes**

Physical activity will affect your mood-

Frequently, fitness professionals hear clients say that they exercise because it makes them “feel good.” Because mood state is influenced by psychosocial, psychophysiological, biochemical and environmental factors, explaining the exercise-induced mechanism is quite difficult. However, it appears that cardiovascular and resistance exercise can positively affect various mood states, including tension, fatigue, anger and vigor (a psychological variable defining vitality or energy) in normal and clinical populations (Lane & Lovejoy 2001; Fox 1999). In addition, even acute bouts of exercise may improve a person’s present mood state. It has been shown that a single bout of 25–60 minutes of aerobic exercise (at low, moderate or high intensities) increases positive mood feelings while also decreasing negative mood feelings. Implications from these data denote the incorporation of habitual exercise in a person’s lifestyle for the enhancement of a positive mood state. The use of resistance training to improve mood state requires further research.

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| Physical activity will affect your brains ability to function | | |
| http://www.fi.edu/learn/brain/images/white.gif | http://www.fi.edu/learn/brain/images/white.gif | http://www.fi.edu/learn/brain/images/white.gif |

Walking is especially good for your brain, because it increases blood circulation and the oxygen and glucose that reach your brain. Walking is not strenuous, so your leg muscles don't take up extra oxygen and glucose like they do during other forms of exercise. As you walk, you effectively oxygenate your brain. Maybe this is why walking can "clear your head" and help you to think better.

Movement and exercise increase breathing and heart rate so that more blood flows to the brain, enhancing energy production and waste removal. Studies show that in response to exercise, cerebral blood vessels can grow, even in middle-aged sedentary animals.

In the morning, while you're still in bed, slowly begin to move your toes – any way that feels good. Wriggle, scrunch, and stretch. Move all your toes up and down several times, or work just your big toes. Wiggling your toes activates nerves that stimulate your brain and internal organs.

Do this exercise first thing each morning or after sitting for an extended period of time. It will help you to wake-up and become alert more quickly. Your whole body may feel pleasantly energized. Most important, your first steps – and those throughout the day – will be safer ones. (Falls are the second leading cause of spinal cord and brain injury among people over 65 years old.)

Psychologist James Blumenthal also points out the long-term importance of exercise for brain function. "We know that in general, exercise improves the heart's ability to pump blood more effectively, as well as increases the blood's oxygen-carrying capacity," he says.

"It is thought that one of the reasons why the elderly – especially those with coronary artery disease or hypertension – tend to suffer some degree of cognitive decline is in part due to a reduction in blood flow to the brain."

**Handouts**

Think-Pair-Share worksheet

Checklist for PowerPoint

Wheel and spoke graphic organizer

**Maine Common Core Teaching Standards for Initial Teacher Certification and Rationale**

***Standard 1 – Learner Development. The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.***

***Learning Styles***

***Clipboard:*** Students will be able to use their checklists to see exactly what is expected

***Microscope:*** Students will be able to dive as deep into the material as they feel comfortable

***Puppy:*** Students will be able to feel safe and secure when presenting their products because they is no right or wrong answers. The more create and open the students are the more engaged in the material that they will be.

***Beach Ball:*** Students will be able to bounce ideas of multiple partners and also the teacher

***Rational:*** Students of all different learning styles will be able to connect with this lesson. It enables students of all different proficiencies to find a neutral understanding of the benefits that physical activity can have on one’s brain.

***Standard 6 -* *Assessment. The teacher understands and uses multiple methods of assessment to engage learners in their on growth, to monitor learner progress, and to guide the teacher's and learner's decision making.***

***Formative:*** Teacher will ask the students to give thumbs up, down or in between in relations to their understanding of the material. If teacher has to perform more instruction she will do so on the second day. Students will be consistently able to receive feedback from teacher through TPS, and also checklist. Students will be able to make up their grades as needed as long as there is an obvious effort at the beginning

***Summative:*** Students will be expected to create a PowerPoint that is both informational and persuasive. The point of the PowerPoint is to persuade those that are reading to understand the importance of physical activity not just in gym class. Students will show how physical activity can be implemented in various classrooms for various reasons.

***Rationale:*** Students will be responsible for most of learning in this lesson. The teacher will be at the disposal of the students but not directly influencing opinions/ products. Students will be able to understand that physical activity can improve brain function even if just by a little. That little bit could be the difference between an A or a B, or even the difference between having/not having Alzheimer’s.

***Standard 7* - *Planning Instruction. The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.***

***Content Knowledge:***

Students will be learning how much physical activity can effect ones brain. They will be able to implement strategies into other classes or scenarios as needed in life.

***MLR or CCSS:***

**Maine Learning Results**

**Content Area:** Health Education and Physical Education

**Standard Label:** H. Physical Fitness Activities and Knowledge

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**Grade Level Span:** Grades 9 - Diploma

Students explain the interrelationship of physiological responses and physical, mental/intellectual, emotional, and social benefits related to regulate participation in physical activity.

***Facet: Empathy***

***Standard 8 -* *Instructional Strategies. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.***

***MI Strategies:***

Logical: Students will be able to see logically why physical activity effects the brain and its functions by watching the you tube video

Verbal: During the think-pair-share activity students will be able to verbalize their understandings

Visual: Students will see the youtube video and be able to notice visually what happens

Musical: Students will be able to incorporate music and or podcasts into their glogster

Intrapersonal: Students will be able to internalize material when they are doing the homework and also in the first stop of the think-pair-share activity

Interpersonal: Working in pairs and group discussion will highlight these students

Kinesthetic: Students will be able to move around the room when they do the fold activity, they will also be able to experience learning and moving.

Naturalist: In the glogster projects students may relate humans and animal brains to see the relationship between the two

***Type II Technology:*** Students will be assessing the internet and be expected to use multiple different media’s, including but not limited to videos/pitcures/podcasts in their PowerPoints

***Rationale:*** By using a Powerpoint instead of simply making a poster, students will be able to show the material in many ways that will make their product come alive.

***NETS STANDARDS FOR TEACHERS***

**1. Facilitates and Inspire Student Learning and Creativity. Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.**

a. Promote, support, and model creative and innovative thinking and inventiveness

b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources

c. Promote student reflection using collaborative tools to reveal and clarify students’ conceptual understanding and thinking, planning, and creative processes

d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

***Rationale:*** Students will be able to create their own examples of how physical activity can be implemented in the classroom. This will engage the student because they will be creating suggestions that they think will be easily implemented.

**2. Design and Develop Digital Age Learning Experiences and Assessments. Teachers design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context and to develop knowledge, skills, and attitudes identified in the NETS-S.**

a. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity

b. Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress

c. Customize and personalize learning activities to address students’ diverse learning styles, working strategies, and abilities using digital tools and resources

d. Provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

***Rationale:*** By using the glogster students will be able to make a product that can be both heard, seen, read. Students have ample opportunity for feedback. Students also will be responsible for the own progress through this lesson